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ABSTRACT

Designed to assist educators in teaching information skills in a systematic way by integrating them into the kindergarten through grade 12 curriculum, this guide is intended to be shared by teachers and library media specialists. A reflection of recent study of the information searching and application process, the guide is not bound to any specific information system or technology and may be used in any school. The guide consists of: (1) a philosophy statement explaining the perspective from which the guide was written; (2) a detailed, 12-step description of the process of successful information searching and application of the results, which identifies the specific skills needed at each step; (3) a scope and sequence for the information skills curriculum, which suggests the grade level at which each step may be introduced, reinforced and/or taught to mastery, and identifies the level of each step in Bloom's Taxonomy of Educational Objectives; (4) a bibliography which includes seven background readings that support and/or further explain the information skills process presented in the guide; and (5) a form provided so that users of the guide may submit samples of successful lesson plans to accompany one or more of the steps in a future edition of the guide. (KM)

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INFORMATION SKILLS CURRICULUM GUIDE

Process, Scope and Sequence

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INFORMATION SKILLS CURRICULUM GUIDE

Process, Scope, and Sequence

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INFORMATION SKILLS CURRICULUM GUIDE

PROCESS, SCOPE AND SEQUENCE

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The Information Skills Process presented in this publication is adapted from the IN4 Information Skills Program developed by Dr. David Wagar, Supervisor, Instructional Media Program, and the Learning Resources Specialists of Edmonds School District.

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INFORMATION SKILLS CURRICULUM GUIDE

INTRODUCTION

The ability to locate information rapidly is becoming an increasingly important skill for the success of students and adults today. The purpose of this guide is to assist educators in teaching information skills in a systematic way, by integrating them into the K-12 curriculum.

This guide has been produced as a joint project of the Washington Library Media Association, Supervisors' Level, and the Learning Resources unit at the Office of the Superintendent of Public Instruction. It is the product of many years' experience in teaching information skills at both elementary and secondary levels. It also reflects recent study of the information searching and application process, stimulated by the growing availability of computers for rapid searching of enormously expanded information databases. It is not bound to any specific information system or technology and may therefore be used in any school. It is hoped that its use will be a shared activity of teachers and library media specialists.

The guide consists of:

- A philosophy statement explaining the perspective of the authors, which may be used as an introduction to teaching or as a rationale when discussing this curriculum with others.

- A detailed description of the process of successful information searching and application of the results, identifying the specific skills needed at each step of the way.

- A scope and sequence for the information skills curriculum, suggesting the grade level at which each step may be introduced, reinforced and/or taught to mastery. This section also indentifies the level of each step in Bloom's Taxonomy of Educational Objectives, a well-known scheme for identifying the relative difficulty of an instructional objective in a heirarchy of thinking skills.**

- A short bibliography of background reading which supports and/or further explains the information skills process presented in this guide. (Note: Curricula from other states are NOT included here because all of those studied by the authors concentrate on the use of some specific library system, such as the use of the card catalog or the use of online searching, and therefore do not take the generic approach favored by this guide.)

- A form which the authors hope that users of this guide will fill out to submit samples of successful lesson plans to accompany one or more of the steps in a future edition of this guide. The form asks for:
    a. The information skills objective of the lesson
    b. Identification of the process step to which the objective belongs
    c. The content area objective being taught simultaneously (as the information skill teaching is integrated into the total school curriculum)

d. The successful teacher and student activities which have been used to teach the objectives specified

The authors hope that this guide will be useful to both teachers and library media specialists as they work together in this important curricular area. After the guide has been in use for a year, it is hoped that sufficient samples of successful lesson plans will have been collected to update the publication in a second edition. It is hoped that the sample lesson plans will represent a broad range of grade levels, content areas and information technologies.

Good luck in using this guide to help your students move successfully into the "Information Age"!

**Bloom, Benjamin S., Ed., Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain, Longman, Green and Co., New York, 1956.

INFORMATION SKILLS CURRICULUM

PHILOSOPHY STATEMENT

Information skills are the necessary tools people use to cope with their environment. They help the learner to acquire, organize, and use an existing body of knowledge and to internalize the meaning of any subject area. Information skills are not limited to any subject or to any discipline; many curricular materials may be used to teach information skills. What is required is a structuring of student learning activities so that students are given repeated opportunities in all curriculum areas to develop information skills. An information skills curriculum teaches the individual the means for processing information.

The keys to developing information skills are integrated instruction and attitudes which foster the use of these skills. An integrated instruction program should develop skills in preparing for a search, gathering relevant information, interpreting and evaluating information, and applying information. Student success will come from the cooperative effort of teachers, librarians, administrators, parents and students. The resources of a school library media center should provide each student the opportunity to find appropriate media and materials to meet his/her needs for information and leisure learning experiences at the level and in the format best suited for that learner. Resources of the larger community--both material and human--should also be available to students who seek to expand their knowledge.

The free acquisition and application of knowledge are fundamental to the development of the individual in a democratic society. Teaching students to become intelligent consumers of information is our primary goal.

PRE-SEARCH

STEP I: FORMULATE THE CENTRAL QUESTION

In school the central question is often in the form of an assignment. If so, the student needs to know what the parameters of the assignment are and how the process and any final product will be evaluated.

In life outside of school the quest for information usually begins as a response to a need or an interest. Students need guided experiences in defining needs for information. They also need to be able to choose questions or topics when given an assignment which allows such latitude.

Whatever the impetus for seeking and using information, there is an advantage to formulating a central question as the first step of the quest. If we were to think in terms of a "topic" instead of a question, there would be less focus for the search; thinking would tend to be limited to static categories.

MINIMUM SKILLS REQUIRED:

The student will be able to ...

A. Identify the purpose of the research by focusing on a specific question to be answered.

B. Use a variety of questioning skills (yes/no, open ended, probing).

C. Formulate the central question/thesis statement.

PRE-SEARCH

STEP II: RELATE QUESTION TO PRIOR KNOWLEDGE

Unless a person can make connections between new information and prior experiences or knowledge, the new information will have no meaning. The lack of such connections results in plagiarism, incoherence, and frustration. Therefore, the first step in orienting oneself to an unfamiliar subject is to find one or more connections that give the subject meaning.

The process begins with thoughtful consideration of what is already known that is related and useful. After that, there may be a need to consult such sources as general encyclopedia articles, short chapters in books on a broader topic, or information from a knowledgeable person, such as a teacher. It is important to distinguish this step from the beginning of the search itself so that attention is focused on relationships and key terms, rather than factual detail.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Brainstorm ideas and information about the central question by recalling previous personal/learning experiences.

B. Locate, identify, and use broad, general information resources.

1. Use information from the general resource materials to identify major/significant sources of information regarding the central question.

2. Recall words, terms, methods, facts, concepts, specific items, by using broad, general information resources.

C. Relate all prior knowledge to the central question or thesis.

PRE-SEARCH

STEP III: IDENTIFY KEY WORDS AND NAMES

At about the same time as a person is analyzing prior knowledge and information she/he is beginning to make note of key words, concepts, and names related to the search question. To conduct an effective search, whether sources include people, electronic databases, books, periodicals, or recorded media, one must know key words and names that serve as organizers for information on this topic. The more key words and names there are to search on, the more apt the searcher is to find sufficient information to answer the central question. Furthermore, key words can serve as conceptual organizers to help the searcher to categorize information in ways that will make it more useful in preparing for its application.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Understand the purpose of compiling bits and pieces of information for later use.

1. Identify key words and phrases.
2. Locate major headings/groupings.
3. Skim or scan for major ideas.

B. Identify key words.

1. Use context clues for key word identification.
2. Understand the definitions of key words related to the central question.
3. Use personal knowledge and general resource materials to list all key words, phrases, subtopic headings, major headings/ groupings which could be used to search the central question.

C. Identify the library subject headings and database descriptors which relate to the central question or thesis.

STEP IV: INTEGRATING CONCEPTS

At this point it becomes important to group the words and thereby organize the concepts one is working with. A word map, radial outline, or traditional list outline may be the vehicle for creating a visual display which will help clarify relationships among the terms and ideas discovered in the two previous steps.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Recognize a variety of ways to organize material in order to clarify relationships among terms and ideas. (lists, clustering, webbing, etc.)

B. Demonstrate the ability to create one or more of the following:
- -list
- -cluster
- -traditional outline
- -mind map
- -radial outline

C. Incorporate key words and phrases into an appropriate method of organization.

D. Restate phrases/concepts in individual's own words.

E. Inspect the method of organization to determine missing elements.

PRE-SEARCH

STEP V: DEVELOP QUESTIONS TO ORGANIZE SEARCH

In order to answer the central question of the search, it is necessary to determine the components of that question and phrase them in sub-questions. For example, to answer the question, "How do fish swim?" it might be necessary to find out "Why don't they sink to the bottom or float on top of the water?", "How do they push themselves forward?" and "How do they change direction from side to side or up and down?"

These questions constitute a plan for the search and become tests of relevance for what is found. The basis for formulating these questions is knowledge gained from prior experiences and from the development of key word lists and concept outlines.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Summarize the main ideas regarding the central question.

B. Express the ideas in a simple sentence form.

C. Ask questions to clarify meaning.

D. Construct questions about the central question, based on the method of organization.

E. Discriminate between important and less important questions, and exclude the least important questions.

F. Create a plan for the search based on the resulting questions by refining the working outline as important information is discovered.

STEP VI: (WHEN NEEDED) RE-EXPLORE GENERAL RESOURCES

During any of the "Pre-Search" Steps I - V, it may become necessary to search for additional broad, general information in preparation for the specific search. What is usually needed is a general overview of the subject such as one might get from a general encyclopedia article, a chapter in a book which treats the subject broadly, or a conversation with someone more knowledgeable. One needs to see relationships and the scope of the question at this point. Details may obscure the big picture. If this step is needed, it will probably lead to revising the work done in Steps II through V, and sometimes even a redefinition of the central question.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Re-examine the general resource materials used in Step #3

B. Revise the central question or thesis statement if necessary.

C. Redefine the central question or thesis statement if necessary.

THE SEARCH

STEP VII: LOCATE RESOURCES OF INFORMATION

To be successful in a search for information, a person must know generally where information comes from and how it is organized in the area of knowledge being searched. While this is an area of expertise for library media specialists, it is important that the information user is aware of the sources that are available, their extent, their quality, and the divergence or convergence of points of view they represent.

We must expand the student's understanding of what is available. Books are not the best source for everything. Personal interviews, firsthand observations, electronic searches, and viewing of video programs are examples of information-gathering activities that can be effective in certain situations.

Using words generated in Step III, the searcher uses appropriate indexes or other keys to resources. There are two steps to the process (a) locating a citation to a source and (b) gaining access to the source itself. In a simple example, the student finds four citations in the card catalog with the subject heading of "ROBOTS" and one under "ROBOTICS." He or she then uses the information from the citations to locate the appropriate resources. As information users grow in sophistication, they learn to use sources they have found as a means to other sources through using in-source bibliographies and through noting the subject headings under which a source is listed.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Recognize and use the library media center resources, including the consulting role of the library media specialist.

B. Reconsider general resource materials located in Steps II and III. Examine other resources such as periodicals, newspapers, special encyclopedias, non-print materials, etc.

C. Consider resources outside of the school library media center: public library, community, home, experts, on-line computer searches, etc.

D. Demonstrate library media center location skills.

1. Recognize that library materials are indexed, and that this index may be in a variety of forms (card catalog, microfiche, on-line computer, etc.)

STEP VII (continued)

2. Recognize that all indexes (card catalog, Reader's Guide, ERIC, etc.) are in alphabetical order.

3. Identify author, title, and subject entries.

4. Locate basic essential information on any given index entry.

5. Use subject headings and cross references to find additional resources.

E. Locate and select the most useful sources from among those available.

THE SEARCH

STEP VIII: SEARCH FOR RELEVANT INFORMATION

Once books, newspapers, films, human resources, pamphlets, magazines, etc. have been located, the search is only partially complete. The relevant and useful information must be extracted as efficiently as possible. Where printed sources are involved, indexes, tables of contents, headings within chapters, and topic sentences of paragraphs may be useful in locating the most useful information within the source. Skimming skills come into play, especially where the headings are lacking. The student must be encouraged to skip quickly over anything that does not contribute to answering the questions from Step V.

Finding the most useful information in a film, videotape, or other time-based medium requires a different set of skills. A first viewing or listening may serve mainly to pinpoint sections which will be of use, with subsequent playing of those sections allowing for detailed note taking. Work with a human resource, on the other hand, requires a detailed set of interview questions and a willingness to improvise as the conversation takes unexpected turns.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Locate the sections of the resource that are useful in answering the search questions generated in Step V.

B. Skim the article or media to find a word, name, date, phrase, idea, or general overview of the resource.

C. Find and make effective use of the relevant sections in time-based media, such as videotapes and films.

D. Continue to build on compiling skills, as introduced in Step III.

1. Determine gaps in information collected.

2. Determine if additional sources are needed.

Step VIII (continued)

E. Compile bibliographic information for each resource.

1. Define and explain the purpose of a bibliography.

2. Identify the essential parts of a bibliographic entry (author, title, copyright date, publisher, medium, etc.)

F. Access relevant records through searching a computer database.

1. Understand the concept of a database, and specifically an on-line database.

2. Determine the possible databases to be searched.

3. Design the search strategy, narrowing the search parameters as needed.

G. Continue to conduct primary research as needed.

1. Plan and complete an interview.

2. Plan and conduct a survey/questionnaire.

3. Write a letter of inquiry.

INTERPRETATION

STEP IX: SELECT AND EVALUATE INFORMATION

As the information user locates potentially useful bits of information, a screening process takes place. First, the information must past tests of relevance established by the search questions. Next, it is scrutinized in terms of such factors as currency, authority, objectivity, consistency, and potential for being understood. As students mature, they gain skills in applying these and other tests of usefulness beyond relevance. Skill in applying each of these tests must be learned and reinforced through experience. Together they develop the individual into a critical user of information.

Part of the evaluation process which must be learned early relates to the learner's personal style and familiarity with the subject under study. A piece of information that is of great utility to one student may be worthless to another working on the same question. As we discussed in connection with Step II, there can be no understanding of information that does not relate to what is already known.

Concurrently with interpreting and evaluating information the student selects the most useful parts of the gathered information. By scanning and skimming, the learner wastes little time with bits of information that are not useful in answering the central question. This is the fine screening of the information which has already been sorted through Steps VII and VIII.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Evaluate for currency of information.

1. Identify copyright date.

2. Understand the significance of dated vs current information.

B. Identify the contributor/producer of the sources being used.

C. Evaluate the contributor's/producer's work for motive, point of view, bias, authority, intended audience, etc.

STEP IX (continued)

D. Distinguish among fact, nonfact, opinion and propaganda.

E. Select information that is most useful in meeting the needs of the central question (Step V). Eliminate irrelevant information.

INTERPRETATION

STEP X: INTERPRET, INFER, ANALYZE, AND PARAPHRASE

Interpretation skills start, but do not end, with reading. A good reader makes use of context clues, discerns the structure of a piece of writing, draws inferences, and perceives relationships. Such skill are also essential to such diverse activities as reading maps, interpreting tables of statistical data, reading schematics, and studying still photographs. During any information quest, the searcher must have the interpretation skills required by each format for the useful pieces of information or else the whole process becomes meaningless in the purest sense of the word. As our students encounter information they cannot interpret, we have two choices: to teach them how to interpret it or interpret it for them. Which is appropriate depends on the purpose of the instructional activity and the time available.

One reliable test of a person's understanding of a piece of information is his/her ability to paraphrase it accurately. Therefore the admonition to students not to copy from their sources except for direct quotation has to do as much with interpretation as it does the ethics of plagiarism. Developing habits of summarizing and paraphrasing in taking notes makes the student think about and interpret information at the time it is accessed, not later when context clues are missing.

In emphasizing the essence, rather than the form, of note taking, we will teach that paraphrased notes be organized or indexed according to the questions (or working outline) developed in Step V. This makes the final steps of the process much easier. Most adults do not use small note cards for this purpose, but insist their students do; we must recognize that such decisions could be left to the individual without sacrificing the essential process. In some cases, drawing, diagrams, audio recordings, or artifacts may be important means for preserving information, serving in lieu of notes.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Read, view or listen to sources, identifying main ideas, opinions and supporting facts.

B. Summarize and paraphrase important facts and details that support the central question (Step V). Compile notes/information according to the working outline developed in Step V.

STEP X (continued)

C. Interpret graphic sources for information: maps, charts, pictures, diagrams, bar and picture graphs, tables, etc.

D. Derive valid inferences from information sources.

APPLICATION

STEP XI: ORGANIZE INFORMATION FOR APPLICATIONS

Information sources are rarely organized in ways that exactly match our end use of their content. As notes are created, they are classified in a way that meets our original need. This classification scheme (from Step V) may evolve during the quest and probably will closely approximate the final structure or outline. In some cases it may be advantageous to create a new structure through radial outlining or some similar techniques. The questions formulated about how fish swim as an example in Step V might not be workable in preparing a group oral presentation on the question. One might reorganize along the lines of fish anatomy and the function of various parts in swimming. While the questions led to the desired information, they might lead to a great deal of repetition in a presentation of the findings. In addition to organizing the information, the group in this case would need to decide who would present what and how.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Compare, summarize and generalize information from all sources.

B. Select an appropriate organizational style.
Possible methods would include:
1. Chronological
2. Three-step action
   a. Give an example, relevant to the subject, based on personal experience.
   b. Explain the action or belief which you propose/hold.
   c. Give either a reason for or the benefit derived from the action.
3. Argumentative position
4. Order of importance
5. Space order
6. Problem - Solution
7. Topical

C. Determine the most effective method of presentation for the selected organizational style.
In order to make this decision the student must be given guidance in the following skills:

1. Identification and operation of a variety of media equipment. (Filmstrip projector, audio cassette recorder, video cassette recorder, video camera.

2. Practice in presenting thoughts, feelings, and creative ideas through student produced media: books, posters, transparencies, slide shows, puppets, audio and video tapes, etc.)

STEP XI (continued)

D. Plan the project (written paper, oral presentation, slide show, videotape, demonstration, exhibit, etc.) using the selected organizational style.

1. Decide on purpose: to inform, persuade, entertain.

2. Determine main points to be made or arguments to be developed and adapt working outline.

3. Use the composition process; including prewriting, rough draft, writing/designing/scripting, etc.

4. Prepare a bibliography if appropriate and/or required for the presentation.

APPLICATION

STEP XII: APPLY INFORMATION FOR INTENDED PURPOSE

We need to give our students a variety of experiences in applying information; written reports are only one of them. If the research were on homemade deck furniture, the end product might be a set of chairs and a table plus a few splinters and blisters. Students need to reach conclusions, create things, and prepare for activities based on quests for information. Reports themselves can be papers, dramatizations, panel discussions, models, demonstrations, or school-wide projects. Each application has its own set of skills required for success. Interpersonal skills are as important as language skills; visual skills are as important as verbal ones.

MINIMUM SKILLS REQUIRED:

The student will be able to...

A. Make a clear, well-supported presentation which answers the central question or solve the problem by applying search information.

B. Draw conclusions based on search information.

C. Evaluate the project and the search process.

SCOPE AND SEQUENCE K - 12

The code used on this grid represents the suggested levels at which skills may be introduced, expanded, mastered and reinforced. As you use this scope and sequence, you may wish to adjust these grade levels to fit your own program.

SCOPE AND SEQUENCE K - 12

PRE-SEARCH STEPS	BLOOM'S TAXONOMY	K	1	2	3	4	5	6	7	8	9	10	11	12
The student will be able to....														
I: FORMULATE THE CENTRAL QUESTION														
A. Identify the purpose of the research by focusing on a specific question to be answered.	Knowledge	I	E	—	—	—	—	M	R	—	—	—	—	—
B. Use a variety of questioning skills (yes/no, open ended, probing).	Application				I	E	—	—	—	M	R	—	—	—
C. Formulate the central question/thesis statement.	Synthesis						I	E	—	—	M	R	—	—
II: RELATE QUESTION TO PRIOR KNOWLEDGE														
A. Brainstorm ideas and information about the central question by recalling previous personal/learning experiences.	Knowledge	I	E	—	—	—	M	R	—	—	—	—	—	—
B. Locate, identify, and use broad, general information resources.	Knowledge			I	E	—	—	M	R	—	—	—	—	—
1. Use information from the general resource materials to identify major/significant sources of information regarding the central question.	Application													
2. Recall words, terms, methods, facts, concepts, specific items, by using broad, general information resources.	Knowledge													
C. Relate all prior knowledge to the central question or thesis.	Application			I	E	—	—	—	—	M	R	—	—	—
III: IDENTIFY KEY WORDS AND NAMES														
A. Understand the purpose of compiling bits and pieces of information for later use.	Comprehension				I	E	—	—	—	M	R	—	—	—
1. Identify key words and phrases.	Knowledge													
2. Locate major headings/groupings.	Knowledge													

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KEY: I-Introduce. E-Expand. M-Masterv. R-Reinforce

	BLOOM'S TAXONOMY	K	1	2	3	4	5	6	7	8	9	10	11	12
3. Skim or scan for major ideas.	Knowledge				I	E	—	—	M	R	—	—	—	—
B. Identify key words.	Knowledge				I	E	—	—	—	M	R	—	—	—
1. Use context clues for key word identification.	Application													
2. Understand the definitions of key words related to the central question.	Comprehension													
3. Use personal knowledge and general resource materials to list all key words, phrases, subtopic headings, major headings/groupings which could be used to search the central question.	Application													
C. Identify the library subject headings and database descriptors which relate to the central question or thesis.	Knowledge							I	E	—	—	M	R	—
IV. INTEGRATE CONCEPTS														
A. Recognize a variety of ways to organize material in order to clarify relationships among terms and ideas. (lists, clustering, webbing, etc.)	Knowledge				I	E	—	—	—	—	M	R	—	—
B. Demonstrate the ability to create one or more of the following: -list -cluster -traditional outline -mind map -radial outline	Comprehension			I	E	—	—	—	—	M	R	—	—	—
C. Incorporate key words and phrases into an appropriate method of organization.	Application					I	E	—	—	M	R	—	—	—
D. Restate phrases/concepts in individual's own words.	Comprehension					I	E	—	—	—	M	R	—	—
E. Inspect the method of organization to determine missing elements.	Analysis							I	E	—	—	M	R	—

SCOPE AND SEQUENCE K - 12

	BLOOM'S TAXONOMY	K	1	2	3	4	5	6	7	8	9	10	11	12
V: DEVELOP QUESTIONS TO ORGANIZE SEARCH														
A. Summarize the main ideas regarding the central question.	Comprehension	I	E	—	—	—	—	—	—	—	M	R	—	—
B. Express the ideas in a simple sentence form.	Comprehension			I	E	—	—	—	—	M	R	—	—	—
C. Ask questions to clarify meaning.	Comprehension		I	E	—	—	—	—	—	M	R	—	—	—
D. Construct questions about the central question, based on the method of organization.	Synthesis						I	E	—	—	—	M	R	—
E. Discriminate between important and less important questions, and exclude the least important questions.	Evaluation						I	E	—	—	—	M	R	—
F. Create a plan for the search based on the resulting questions by refining the working outline as important information is discovered.	Synthesis						I	E	—	—	—	M	R	—
VI: (WHEN NEEDED) RE-EXPLORE GENERAL RESOURCES														
A. Re-examine the general resource materials used in Step #3.	Synthesis						I	E	—	—	M	R	—	—
B. Revise the central question or thesis statement if necessary.	Synthesis						I	E	—	—	—	—	M	R
C. Redefine the central question or thesis statement if necessary.	Synthesis						I	E	—	—	—	M	R	—

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KEY: I-Introduce, E-Expand, M-Mastery, R-Reinforce

SCOPE AND SEQUENCE K - 12

THE SEARCH	BLOOM'S TAXONOMY	K	1	2	3	4	5	6	7	8	9	10	11	12
VII: LOCATE RESOURCES OF INFORMATION														
A. Recognize and use the library media center resources, including the consulting role of the library media specialist.	Knowledge	I	E	—	—	—	—	—	—	—	M	R	—	—
B. Reconsider general resource materials located in Steps II and III. Examine other resources such as periodicals, newspapers, special encyclopedias, non-print materials, etc.	Comprehension/ Knowledge				I	E	—	—	—	—	M	R	—	—
C. Consider resources outside of the school library media center: public library, community, home, experts, on-line computer searches, etc.	Knowledge			I	E	—	—	—	—	—	—	M	R	—
D. Demonstrate library media center location skills.	Application	I	E	—	—	—	—	—	—	—	—	M	R	—
1. Recognize that library materials are indexed, and that this index may be in a variety of forms (card catalog, microfiche, on-line computer, etc.)	Comprehension	I	E	—	—	—	—	—	—	—	—	M	R	—
2. Recognize that all indexes (card catalog, Reader's Guide, ERIC, etc.) are in alphabetical order.	Comprehension			I	E	—	—	—	M	R	—	—	—	—
3. Identify author, title, and subject entries.	Knowledge		I	E	—	—	M	R	—	—	—	—	—	—
4. Locate basic essential information on any given index entry.	Knowledge			I	E	—	—	M	R	—	—	—	—	—
5. Use subject headings and cross references to find additional resources.	Application							I	E	—	M	R	—	—
E. Locate and select the most useful sources from among those available.	Knowledge/ Analysis				I	E	—	—	—	M	R	—	—	—
VIII. SEARCH FOR RELEVANT INFORMATION														
A. Locate the sections of the resource that are useful in answering the search questions generated in Step V.	Knowledge			I	E	—	—	—	M	R	—	—	—	—
B. Skim the article or media to find a word, name, date, phrase, idea, or general overview of the resource.	Comprehension				I	E	—	—	—	M	R	—	—	—

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	BLOOM'S TAXONOMY	K	1	2	3	4	5	6	7	8	9	10	11	12
C. Find and make effective use of the relevant sections in time-based media, such as videotapes and films.	Knowledge/ Application					I	E			R				
D. Continue to build on compiling skills, as introduced in Step III. 1. Determine gaps in information collected. 2. Determine if additional sources are needed.	Comprehension					I	E			R				
E. Compile bibliographic information for each resource. 1. Define and explain the purpose of a bibliography. 2. Identify the essential parts of a bibliographic entry (author, title, copyright date, publisher, medium, etc.)	Synthesis Knowledge Knowledge					I	E				M	R		
F. Access relevant records through searching a computer database. 1. Understand the concept of a database, and specifically an on-line database. 2. Determine the possible databases to be searched. 3. Design the search strategy, narrowing the search parameters as needed.	Application Comprehension Comprehension Synthesis							I	E		M		R	
G. Continue to conduct primary research as needed. 1. Plan for and complete an interview. 2. Plan and conduct a survey/questionnaire. 3. Write a letter of inquiry.	Application Synthesis Synthesis Knowledge							I	E		M	R		
INTERPRETATION														
IX: SELECT AND EVALUATE INFORMATION														
A. Evaluate for currency of information. 1. Identify copyright date. 2. Understand the significance of dated vs current information.	Evaluation Knowledge Knowledge				I	E				M	R			

SCOPE AND SEQUENCE K - 12

	BLOOM'S TAXONOMY	K	1	2	3	4	5	6	7	8	9	10	11	12
B. Identify the contributor/producer of the sources being used.	Knowledge					I	E	—	—	M	R	—	—	—
C. Evaluate the contributor's/producer's work for motive, point of view, bias, authority, intended audience, etc.	Evaluation								I	E	—	M	R	—
D. Distinguish among fact, nonfact, opinion and propaganda.	Evaluation					I	E	—	—	—	M	R	—	—
E. Select information that is most useful in meeting the needs of the central question (Step V). Eliminate irrelevant information.	Analysis					I	E	—	—	—	M	R	—	—
X. INTERPRET, INFER, ANALYZE, AND PARAPHRASE														
A. Read, view or listen to sources, identifying main ideas, opinions and supporting facts.	Knowledge/ Comprehension			I	E	—	—	—	—	—	M	R	—	—
B. Summarize and paraphrase important facts and details that support the central question (Step V). Compile notes/information according to the working outline developed in Step V.	Evaluation					I	E	—	—	—	M	R	—	—
C. Interpret graphic sources for information: maps, charts, pictures, diagrams, bar and picture graphs, tables, etc.	Evaluation						I	E	—	—	M	R	—	—
D. Derive valid inferences from information sources.	Evaluation						I	E	—	M	R	—	—	—
APPLICATION														
XI: ORGANIZE INFORMATION FOR APPLICATIONS														
A. Compare, summarize and generalize information from all sources.	Evaluation						I	E	—	M	R	—	—	—

SCOPE AND SEQUENCE K - 12

	BLOOM'S TAXONOMY	K	1	2	3	4	5	6	7	8	9	10	11	12
B. Select an appropriate organizational style. Possible methods would include:	Analysis								I	E	E	M	R	R
1. Chronological														
2. Three-step action														
a. Give an example, relevant to the subject, based on personal experience.														
b. Explain the action or belief which you propose/hold.														
c. Give either a reason for or the benefit derived from the action.														
3. Argumentative position														
4. Order of importance														
5. Space order														
6. Problem - Solution														
7. Topical														
C. Determine the most effective method of presentation for the selected organizational style. In order to make this decision the student must be given guidance in the following skills:	Comprehension	I	E	E	E	E	E	E	M	R	R	R	R	R
1. Identification and operation of a variety of media equipment. (Filmstrip projector, audio cassette recorder, video cassette recorder, video camera.	Knowledge													
2. Practice in presenting thoughts, feelings, and creative ideas through student produced media: books, posters, transparencies, slide shows, puppets, audio and video tapes, etc.)	Comprehension													
D. Plan the project (written paper, oral presentation, slide show, videotape, demonstration, exhibit, etc.) using the selected organizational style.	Synthesis				I	E	E	E	E	E	M	R	R	R
1. Decide on purpose: to inform, persuade, entertain.	Analysis													
2. Determine main points to be made or arguments to be developed and adapt working outline.	Analysis													
3. Use the composition process; including prewriting, rough draft, writing/designing/scripting, etc.	Application													
4. Prepare a bibliography if appropriate and/or required for the presentation.	Application													

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SCOPE AND SEQUENCE K - 12

	BLOOM'S TAXONOMY	K	1	2	3	4	5	6	7	8	9	10	11	12
XII: APPLY INFORMATION FOR INTENDED PURPOSE														
A. Make a clear, well-supported presentation which answers the central question; or solve the problem by applying search information.	Synthesis				I	E	—	—	—	—	—	M	R	—
B. Draw conclusions based on search information.	Evaluation							I	E	—	M	R	—	—
C. Evaluate the project and the search process.	Evaluation							I	E	—	M	R	—	—

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SAMPLE LESSON PLAN FORM

Integrated Instruction Involving Information Skills

Grade: _____ Subject: _____
Information Skill Objective/s:

Related Model Step:
Content Objective/s:

Prerequisite skills:

Prerequisite content knowledge:

Materials:

Objectives	Teacher Activities	Student Activities
The learner will be able to...	(This is an example. This space may be expanded)	

Methods of student assessment (criteria or instrument attached).

Enrichment activities:

To share this lesson--
(Please send copies to: Nancy Motomatsu, S. P. I., Old Capitol Bldg. FG-11, Olympia, WA 98504)

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